

**Fabrication and Controlled Release of Structures Using Etch-
Stop Trenches**

ABSTRACT

MEMS structures may be formed on a substrate by forming a series of trenches filled with etch-stop material in the device layer, followed by an isotropic etch of the device material stopping on the etch-stop material. This approach provides a controlled release method where the exact timing of the isotropic release etch becomes non-critical. Further, using this method, structures with significant topology may be fabricated while keeping the wafer topology to a minimum during processing until the very end of the process. Using the method of this invention, features with large topology may be formed while keeping the wafer topology to a minimum until the very end of the process.